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10/536,902

05/27/2005

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EXAMINER

MILLER, JR, JOSEPH ALBERT

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/536,902 | Applicant(s) RIUS ET AL. | |
| | Examiner JOSEPH MILLER JR | Art Unit 1792 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-3 and 5-7 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group 1 in the reply filed on January 5, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

Claims 1 and 2 are objected to because of the following informalities: claim 1 states "with a respective one of said electromagnetic fields" which is unclear; it will be interpreted as "with respect to one..".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laurent (WO99/17334) in view of Moore (PCT/EP00/12770, 2003/0097986 used as translation).

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Laurent teaches a method for treating at least one face (the inside surface) of a bottle in a PECVD process where microwaves (UHF waves) are used and a coupling mode is generated (abstract). A plasma-excited precursor gas is used (pg 2, lines 15-20). A cylindrical microwave confinement is used within a chamber; the coupling mode generated is a TM mode without axial components (pg 3, lines 12-15) (therefore coaxial to the produced fields).

Laurent teaches an embodiment where the method may be used with multiple containers which may be arranged in a "matrix"; in the application for multiple containers, multiple microwave confinements may be contained within one chamber (pg 3, line 30- pg 4, line 4).

Regarding the claim limitation that the chamber is sized such that a coupling mode is generated that creates several electromagnetic fields inside the chamber, Laurent teaches that "the microwave confinement, the coupling means, and the microwave generator are **designed** and tuned that the microwave confinement is excited in a TM resonant mode", thereby teaching the sizing of the confinement, which is linked to the chamber size (pg 3, lines 13-18), such that an electromagnetic field is generated. Since each container is in a microwave confinement, when applying the method to multiple containers, it would be inherent and/or obvious that multiple electromagnetic fields are in fact generated.

Laurent teaches all aspects of the invention except for the use of a circular vacuum chamber.

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Moore teaches a process for coupling microwave energy into a circular vacuum chamber (abstract, Figure 2).

It would have been obvious to someone of ordinary skill in the art at the time of the invention to apply the use of a circular vacuum chamber, as taught by Moore as it would allow more of the chamber to be "taken over" by the substrate (Laurent, pg 3, lines 16-17) when the substrate is cylindrical, such as in the case of a bottle.

Furthermore, when using the method for multiple substrates, a greater number of cylinder microwave confinements could be included in an overall chamber area that is minimized, compared to another shaped area. The definition of the arrangement of the confinements in a "matrix" allows for any distribution of the confinements. More circular per area could fit into a given circular space without additional unused area; the desire to minimize space when implementing a vacuum is well known in the art.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laurent (WO99/17334) in view of Moore (PCT/EP00/12770, 2003/0097986 used as translation) as applied to claim 1 above and in further view of Schmidt (2001/0011654).

Laurent teaches a method for treating at least one face (the inside surface) of a bottle in a PECVD process where microwaves (UHF waves) are used and a coupling mode is generated (abstract). A plasma-excited precursor gas is used (pg 2, lines 15-20). A cylindrical microwave confinement is used within a chamber; the coupling mode generated is a TM mode without axial components (pg 3, lines 12-15) (therefore coaxial to the produced fields).

Laurent teaches that multiple microwave confinements may be contained within one chamber (pg 3, line 30- pg 4, line 4) and that the chamber is sized such that a coupling mode is generated that creates several electromagnetic fields inside the chamber (pg 3, lines 13-18).

Moore teaches a process for coupling microwave energy into a circular vacuum chamber (abstract, Figure 2).

Laurent in view of Moore teach all aspects of the instant claims except the requirement that a TM 120 coupling mode is established.

Schmidt teaches a process for the application of microwaves to coated substrates (abstract). Schmidt teaches that the dimensions of a cavity may be varied to produce various resonant modes, including TM 120.

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the use of the TM 120 in the microwave process as taught by Schmidt to the microwave plasma deposition process taught by Laurent in view of Moore as one could modify the size of the chamber with a reasonable expectation of producing a TM 120 resonant mode based on Schmidt's successful use of a TM 120 resonant mode to produce microwaves.

Laurent teaches the application to any number of substrates, when applying his method to two substrates (which would be obvious under "a plurality") it would be obvious to size and shape the chamber to produce a TM 120 mode, As Laurent is concerned with generating a TM mode.

Response to Arguments

Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, see Reply to Office Action, filed 01/05/2009, with respect to the rejection(s) of claim(s) 1 and 2 under 103(a) have been fully, though the prior art used in the first office teaches the initially claimed invention, it does not teach or suggest the combinations with respect to each container being coaxial with a respective one of said electromagnetic fields, therefore a new grounds of rejection have been made.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH MILLER JR whose telephone number is (571)270-5825. The examiner can normally be reached on Mon – Fri, 8am -4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/JOSEPH MILLER JR/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792